WURLITZER
DEUTSCHE WURLITZER GMBH
WERK LEVERN
4995 STEMWEDE 1 · POSTFACH
☎ (05745) 280 · Tx 972183 · Fax (05745) 2820

Starting serial no. 2704 4100 a modified "selection and credit computer" no. 40 312 (Pos. 1) is used. It is compatible with the previously used 40 306.
No. 40 312 uses an 8k-EPROM MBox 5.2 with additional features.

Service program
The separate service switch has been eliminated and the switch previously used for play sequence selection is now employed as service switch.

To start service program:
==========
1. Move switch from (Pos. 2) OFF to ON
2. Press "LT" (Pos. 3)

To leave service program:
==========
1. Set switch from ON to OFF
2. Press "LT"

Automatic reset time for top tunes and floß indication has been changed to 30 seconds.

Play sequence
Play sequence ist determined by a jumper at (Pos. 4). Without jumper records are played in the order they have been selected. To change to sequence of storage in record carrier insert jumper at (Pos. 4) and press "LT".
When switched on (memory battery OFF) the record carrier turns to determine automatically whether a 100, 160 or 200 selection mechanism is used.

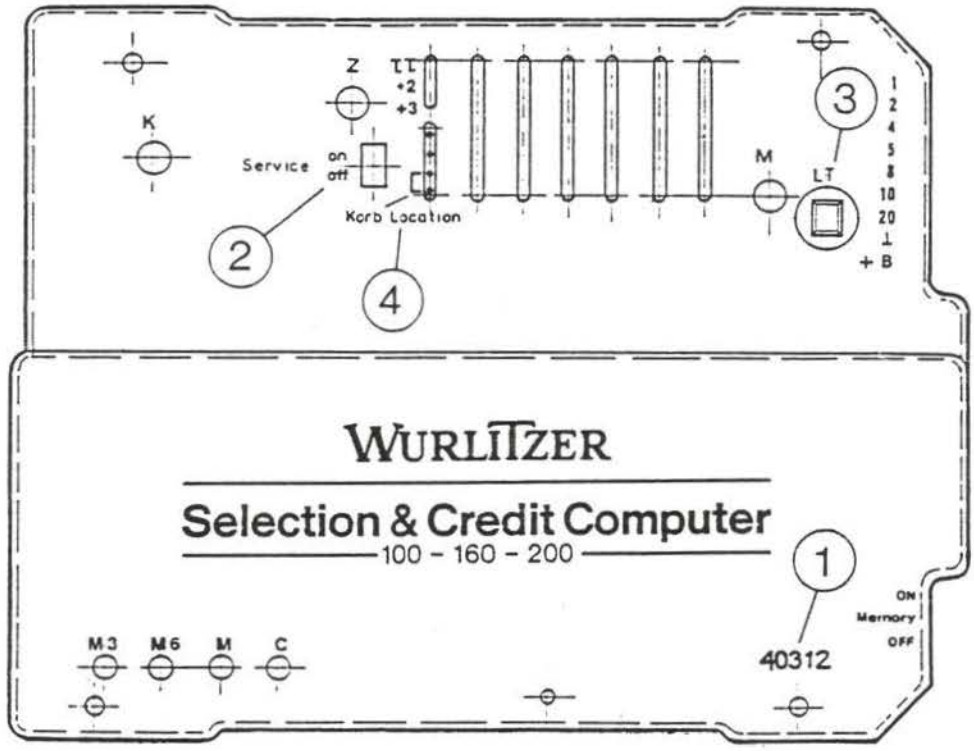
Play stimulator
The previously used separate play stimulator has been eliminated.
Play stimulator function 1 to 98 min is now available in memory.
To program:

- Set memory ON by putting plug into up position, if in "OFF" position.
- Service switch ON
- Press "LT"
- Press selector button "Reset"
- Press selector button "5"
- Enter 3 times "0"
- Press again selector button "Reset"
- Press selector button 5 for at least 1 second: display shows [100]
  or [160]
  or [200]
  or programmed Top Tunes
- Press 9 display shows [9]
- Press number of minutes required to the interval between play stimulator - 01 = 1 minute
  02 = 2 minutes etc: after programming display shows [100]
  or [160]
  or [200]
  or programmed Top Tunes
- Press "R"
- Service switch to "OFF"
- Press "LT" button

Record carrier turns.

IV/87 - VIII/87 - IV/88
Sei/Gr.

p.t.o.


I
K
Z
LT
+2
+3
Service
on
off
Korb Location
2
4
M
LT
3
1
2
4
5
8
10
20
⊥
+ B
WURLITZER
Selection & Credit Computer
100 - 160 - 200
1
40312
ON
Memory
OFF
M3
M6
M
C

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Continuous play in the Wurlitzer OMT 1015

This feature provides constant play of records. The records are selected in a random sequence. A selection over the keyboard interrupts this feature and it remains when selected records are played.

To activate this, set slide switch (pos. 4) in position background music to "ON".

If this switch does not start the "continuous play", proceed as follows:
NOTE: Before starting check that the memory plug is in the **ON** position

(Pos. 1) memory: on / off

1) Move the service switch from the **OFF** position to the **ON** position (Pos. 2.)

2) Press the "**LT**" button (Pos. 3.)

3) Press selector button 5 for at least 1 second and the display will show . . . . . | 1 | 0 | 0 |

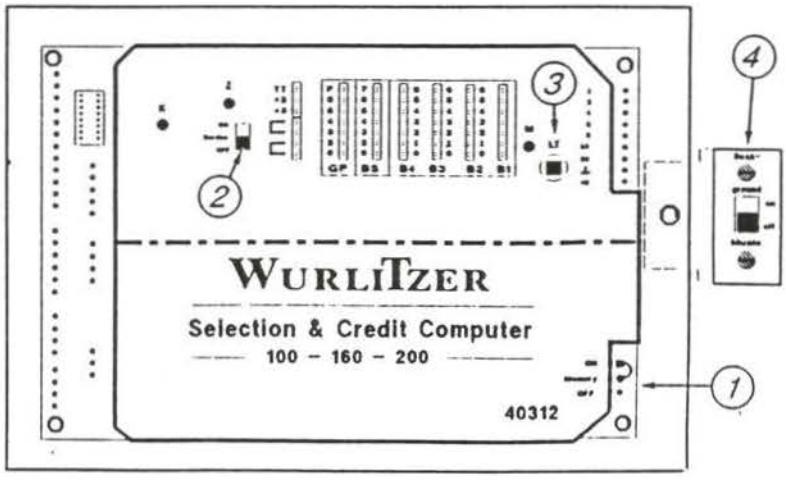
4) Press selector button 9 - the display will show | 9 | | |

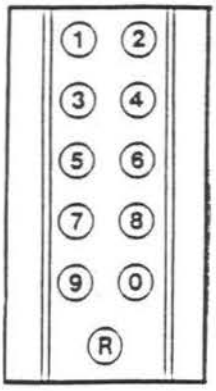
5) Press selector button 9 two times . . . . . | 9 | 9 | 9 |

6) Press selector button **R**

7) Move the service switch from the **ON** position to the **OFF** position (Pos. 2.)

8) Press the "**LT**" button (Pos. 3.). Record carrier turns.





Selector Button Panel located at the front of the Juke Box

TO RETURN TO NORMAL PLAY:

Set slide switch pos. 4 to "OFF"

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Functional Description

Wurlitzer Compact Amplifier

The amplifier consists of three main circuit parts:

1. Pre-amplifier with equalization for the magnetic pick-up.
2. DC controlled volume and tone control amplifier.
3. Transformerless output stage with electronic overload protection.

The pick-up output is fed via C 200 and R 201 to pre-amplifier IC1 (LM 387). R202 and C201 protect against interference from RF sources. The elements in the feedback circuit of IC1 equalize the output characteristic of the pick-up.

C202 and R203 determine the amplification and the low frequency limit. The signal is fed to the auxiliary output via C205 and R242 and via R207 to the manual amplification control and to the automatic volume control. The stereo-mono switch S1 is also connected at R207.

Control Amplifier

IC200 (Siemens TDA 4290) controls volume level, bass and treble response.
The IC supplies a reference voltage of approx. 5 Volts at pin2. This voltage goes directly to the treble/bass controls which supply the control voltage to pins 8 and 14 of both control amplifiers. C2 and C3 suppress noise which would lead to a modulation of the audio signal.

The refeerence voltage is also connected to pin4 giving higher bass output at low volume levels. The correct control characteristic is obtained by network C210/211, R210/211/212, connected to output pins 3-6.

Total volume control is obtained by a linear potentiometer getting 2,5 Volts through R3 (4,7 k). The two volume controls 10 k are fitted in a small removable box which can also be used as remote volume control. The box can be removed and the connecting cable extended. This cable carries only DC voltage and is decoupled by capacitors C112/212. The extension cable may be unscreened and of any desirable length.
A switch in the remote control box allows either control of both channels for stereo operation with one knob or 2-channel operation with both channels separated.

The remote control holds also a cancel button.

Pin6 of the remote control socket supplies a stabilized DC voltage of 16 V for the infrared volume control. This voltage is also used for the pre- and control-amplifiers an the microphone socket pin77.

X/83
Pa.

p.t.o.

The reference voltage is decreased via D1/R9 if Tr1 is connected through R8/R10 to the control voltage from the microphone kit. This reduces the volume of the disc by 18 dB at full volume. This volume reduction is decreased at lower volumes. Tr1 is also controlled via R7 from the rectified DC voltage on the pre-amplifier output, thereby obtaining an automatic level control. R6 sets the treshold of the level control.

Transistor Tr 100/200 short the volume control voltage if the mechanism grounds the connection "LÖSCH" (cancel). This condition is indicated by the red LED 2 controlled by Tr 2.

Output Amplifier

C213/R214 supply the signal to the first stage of the amplifier. The signal from the mike kit is supplied by C215/R215.

The first stage consists of a differential amplifier Tr202/207 which uses a constant current source as emitter-resistor (Tr201/R217/D200/201). Thereby an excellent linearity and good DC stability are obtained.

From the output resistor R238 the signal is fed to the base of the driver transistor Tr210 which also has a constant current source as load resistor (Tr202/R218/D200/201).. This allows the output voltage to reach nearly the supply voltage. Transistor Tr204 is located close to the cooling extrusion and compensates the temperature drift of the output transistors.

This transistor operates as controlled resistance allowing to adjust the quiescent current of the output stage with R220. To limit the base current of Tr209 under overload condistions diodes 20o/211 together with R 233 dand Tr210 from a constant current source which is designed so that under normal conditions limitation does not occur.

Both output transistors are protected with two separate safety curcuits. the voltage drop at the emitter resistor R244 fed via deviders R222, R226 and diode D203 to limiting transistor Tr205, which reduces when conducting the base voltage of the output transistor. Fiofr D202 prevents inverse operation of Tr205 during the negative halt wave. Current limitation ocurs at 7.5 Amp.

A further safety circuit limits the power dissipation of the output transistors if a very low impedance is connected to the output.

Resistors R223/227 gorm a bridge together with R224 and the speaker impedance. If the speaker load is below 4 Ohms, the bridge is unbalanced. This causes via R221 Tr 205 to conduct thereby reducing the base voltage of Tr 204. This limits the current to 2,5 Amp., limiting the maximum power dissipation. If the speaker output is shorted, resistor R228 supplies a control voltage for the negative feedback through the differential amplifier thereby dividing the dissipated power equally between both transistors.

The negative feedback circuit consists of R225/R230 and C217. This capacitor determines the lower cut-off frequency at 50 Hz.
The feedback operates fully for DC.

R229/C219 prevent RF oscillation of the output stage. Fuse Si2 protects the speaker if a faulty output stage supplies DC to the output. Switch S2 allows to switch the internal speakers to the LH channel and the external speakers to the RH channel for 2-channel operation.